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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/628,200	07/28/2000	Junichi Takahashi	IZM-01001	3387
26339	7590	01/11/2006	EXAMINER	
MUIRHEAD AND SATURNELLI, LLC 200 FRIBERG PARKWAY, SUITE 1001 WESTBOROUGH, MA 01581			BATTAGLIA, MICHAEL V	
			ART UNIT	PAPER NUMBER
			2652	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/628,200

Applicant(s)

TAKAHASHI ET AL.

Examiner

Michael V. Battaglia

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-7 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-7 and 12-15 is/are allowed.
- 6) ☒ Claim(s) 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Drawings

1. The drawings were received on October 17, 2005. These drawings are acceptable.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 16 is rejected under 35 U.S.C. 103(a) as obvious over Momoo et al (hereafter Momoo) (US 5,946,137) in view of Ohnishi et al (hereafter Ohnishi) (US 6,125,087).

Momoo discloses an optical head (Figs. 1 and 2 and Col. 2, line 38-Col. 3, line 42), comprising: (a) a light source (Fig. 1(a), element 1) that emits a light beam to be irradiated to an optical recording medium (Fig. 1(a), element 3) as an incident light beam; (b) a diffraction element (Figs. 1(a) and 1(b), element 5) that receives a reflected light beam generated by reflection of said incident light beam on said medium to generate at least two diffracted light beams for focusing error detection (Fig. 1(a)) and at least two diffracted light beams for tracking error detection (Fig. 1(b)); and (c) an optical detector Fig. 1, elements 7-10) that detects the at least two diffracted light beams for focusing error detection and the at least two diffracted light beams for tracking error detection, wherein said diffraction element includes at least first (Figs. 1(a) and 2(a), element 5a) and second (Figs. 1(b) and 2(b), element 5b) diffraction gratings, said gratings having different grating patterns and at least one of said grating patterns being non-linear and having an offset center with respect to another of said grating patterns (Fig. 2), and wherein said first diffraction grating is

disposed on a surface of said element and said second diffraction grating is disposed on an opposite surface thereof (Figs. 1(a) and 1(b)). Momoo does not disclose that the diffraction element is a hologram element.

Ohnishi teaches using a hologram element having curved (i.e. non-linear) grating grooves as a diffraction grating (i.e. diffraction element) to provide an optical pickup to enhance light availability (Col. 17, lines 18-22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the diffraction element of Momoo to be a hologram element as suggested by Ohnishi, the motivation being enhance light availability in the optical head of Momoo.

3. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Momoo in view of Ohnishi, as applied to claim 16 above, and further in view of Kim et al (hereafter Kim) (US 5,374,819) and further in view of Fukakusa et al (hereafter Fukakusa) (US 5,687,155).

Momoo does not disclose that at least said light source and said optical detector are located in a package having a positioning mechanism.

Kim teaches locating at least the light source (Fig. 1, element 100) and optical detector (Fig. 1, element 130) of an optical head (Fig. 1) in a package (Fig. 1, element 400) to house and protect the components (Col. 4, lines 28-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for at least the light source and optical detector of Momoo to be located in a package as suggested by Kim, the motivation being to house and protect the components.

Fukakusa discloses an optical head having at least a light source and an optical detector located in a package having a positioning mechanism; wherein said package is mounted on a base using said positioning mechanism (Fig. 7 and Col. 8, lines 15-47). It is noted that the claimed

Art Unit: 2652

“package” reads on the optical member (Figs. 2 and 7, element 10) having the light source (Fig. 2 and 7, element 1) and optical detectors (Fig. 2, elements 2a-2d and 3a-3d and Col. 8, lines 23-24), a “base” reads on the bobbin (Fig. 7, element 60), and the claimed “positioning mechanism” reads on the fixing parts of the optical member and bobbin (Fig. 7, elements 17 and 61 and Col. 8, lines 38-39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the package of Momoo in view of Kim onto the base of Fukakusa using the positioning mechanism of Fukakusa, the motivation being to fit the package in a fixed position.

4. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Momoo in view of Ohnishi and further in view of Kim and further in view of Fukakusa, as applied to claim 17 above, and further in view of Maeda et al (hereafter Maeda) (US 5,956,302).

In regard to claim 18, Momoo in view of Ohnishi and further in view of Kim does not disclose that the package is made of plastic.

Maeda discloses an optical head that includes a light source and an optical detector located in a plastic package (Fig. 25, element 17). Maeda teaches that by making the package out of plastic, the optical head is lightweight (Col. 24, lines 38-40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the package of Momoo in view of Kim a plastic package as suggested by Maeda, the motivation being to make the optical head lightweight.

In regard to claim 19, Momoo in view of Ohnishi and further in view of Kim and further in view of Fukakusa disclose that said package is mounted on a base using said positioning mechanism (see rejection of claim 17 above).

In regard to claim 20, Fukakusa discloses that the base has a hole into which said package is inserted; and wherein an inner wall of said hole is substantially equal in shape and size to an outer wall of said package; wherein said inner wall of said hole has an engaging part and said outer wall of said package has a corresponding engaging part; and wherein said package is positioned at a desired location with respect to said base by engagement between said engaging parts of said hole and said package (Fig. 7 and Col. 8, lines 15-47). It is noted that the claimed "engaging part of the inner wall of the hole in the base" reads on the bobbin fixing part (Fig. 7, element 61) and the claimed "engaging part of the outer wall of the package" reads on the optical member fixing part (Fig. 7, element 17). In addition, Fukakusa teaches that by fitting the package into the hole in the base, the light source can be sealed off from the atmosphere, which improves reliability by reducing the risk of shortening the life or breakdown of the light source due to steam or corrosive gas contained in the atmosphere (Col. 8, lines 38-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the package of Katayama into a hole in the base; wherein an inner wall of said hole is substantially equal in shape and size to an outer wall of said package; and wherein said inner wall of said hole has an engaging part and said outer wall of said package has a corresponding engaging part; and wherein said package is positioned at a desired location with respect to said base by engagement between said engaging parts of said hole and said package as suggested by Fukakusa, the motivation being to fit the package into a fixed position while sealing off the light source from the atmosphere, thereby improving reliability by reducing the risk of shortening the life or breakdown of the light source due to steam or corrosive gas contained in the atmosphere.

Art Unit: 2652

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Momoo in view of Ohnishi as applied to claim 16 above, and further in view of Fukakusa.

Momoo in view of Ohnishi disclose the optical head of claim 16 but does not disclose that the optical head further comprises a heat dissipation member.

Fukakusa discloses that the optical head further comprises a heat dissipation member for dissipating heat generated by said light source (Fig. 7, element 18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the optical head of Momoo a heat dissipation member for dissipating heat generated by said light source as suggested by Fukakusa, the motivation being to dissipate heat generated by the light source.

Allowable Subject Matter

6. Claims 4-7 and 12-15 allowable for the reasons specified in the November 18, 2004 Office action.

Response to Arguments

7. Applicant's arguments with respect to the 35 U.S.C. 112, first paragraph, rejection of claims 16-21 are persuasive. Applicant's arguments with respect to the allowability of claims 16-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

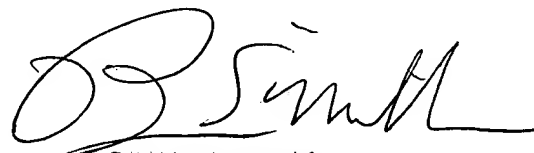
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Battaglia whose telephone number is (571) 272-7568. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2652

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Michael Battaglia


BRIAN E. MILLER
PRIMARY EXAMINER